

IN THE CLAIMS

The pending claims are reproduced herein for the Examiner's convenience:

1. (Previously Presented) An article comprising:
a wire-bonding substrate including a first surface and a second surface, wherein the substrate includes at least one of:

a bond finger disposed on the first surface, wherein the bond finger includes a metallization in the substrate, and a metallic surface finish above and on the metallization;

a land pad for a ball attach on the second surface, wherein the land pad includes a metallization in the substrate, and a metallic surface finish below and on the metallization; and

wherein the metallic surface finish has a higher electrochemical potential than the metallization in the substrate.

2. (Original) The article according to claim 1, wherein the metallization is a copper metallization, and wherein the metallic surface finish is selected from gold, gold alloy, silver, silver alloy, platinum, platinum alloy, iridium, iridium alloy, and combinations thereof.

3. (Original) The article according to claim 1, wherein the metallic surface finish includes a first plating layer above and on the metallization, and a second plating layer above and on the first plating layer.

4. (Original) The article according to claim 1, wherein the metallization is copper, and wherein the metallic surface finish includes a gold first plating layer above and on the metallization, and a gold second plating layer above and on the gold first plating layer.

5. (Original) The article according to claim 1, wherein the metallization is copper, and wherein the metallic surface finish includes a first plating layer above and on the metallization and a second plating layer above and on the first plating layer, and wherein the metallic surface finish is in a thickness range from about 0.01 μm to about 10 μm .

6. (Original) The article according to claim 1, wherein the metallization is copper, and wherein the metallic surface finish includes:
a first plating layer above and on the metallization, wherein the first plating layer is selected from gold, gold alloy, silver, silver alloy, platinum, platinum alloy, iridium, iridium alloy, and combinations thereof; and
a second plating layer above and on the first plating layer, wherein the second plating layer includes an equal or higher electrochemical potential than the first plating layer, and wherein the metallic surface finish is in a thickness range from about 0.01 μm to about 10 μm .

7. (Original) The article according to claim 1, wherein the metallization is copper, and wherein the metallic surface finish includes:
a gold first plating layer above and on the metallization; and
a gold second plating layer above and on the first plating layer, and wherein the metallic surface finish is in a thickness range from about 0.01 μm to about 10 μm .

8. (Original) The article according to claim 1, wherein the metallization is copper, and wherein the metallic surface finish includes:
a first plating layer above and on the metallization, wherein the first plating layer is selected from gold, gold alloy, silver, silver alloy, platinum, platinum alloy, iridium, iridium alloy, and combinations thereof; and
a second plating layer above and on the first plating layer, wherein the second plating layer includes an equal or higher electrochemical potential than the first plating layer, and wherein the second plating layer is more ductile than the first plating layer.

Claims 9-27. (Canceled).

28. (Previously Presented) An article comprising:
a wire-bonding substrate including a first surface and a second surface, wherein the substrate includes at least one of:

a bond finger disposed on the first surface, wherein the bond finger includes a metallization in the substrate, and a metallic surface finish above and on the metallization; and

wherein the metallic surface finish has a higher electrochemical potential than the metallization in the substrate.

29. (Previously Presented) The article of claim 28, wherein the metallization is a copper metallization, and wherein the metallic surface finish on the bond finger is selected from gold, gold alloy, silver, silver alloy, platinum, platinum alloy, iridium, iridium alloy, and combinations thereof.

30. (Previously Presented) The article of claim 28, wherein the metallic surface finish on the bond finger includes a first plating layer above and on the metallization, and a second plating layer above and on the first plating layer.

31. (Previously Presented) The article of claim 30, wherein the metallization is a copper metallization, and wherein the metallic surface finish on the bond finger is selected from gold, gold alloy, silver, silver alloy, platinum, platinum alloy, iridium, iridium alloy, and combinations thereof.

32. (Previously Presented) The article of claim 28, wherein the metallic surface finish on the bond finger includes a first plating layer above and on the metallization, and a second plating layer above and on the first plating layer, and wherein the metallic surface finish on the bond finger is in a thickness range from about 0.01 μm to about 10 μm .

33. (Previously Presented) The article of claim 32, wherein the metallization is a copper metallization, and wherein the metallic surface finish on the bond finger is selected from gold, gold alloy, silver, silver alloy, platinum, platinum alloy, iridium, iridium alloy, and combinations thereof.

34. (Previously Presented) The article of claim 28, wherein the metallic surface finish on the bond finger includes a first plating layer above and on the metallization in a thickness range from about 10Å to about 10,000 Å, and a second plating layer above and on the first plating layer, and wherein the metallic surface finish on the bond finger is in a thickness range from about 0.01 μm to about 10 μm .

35. (Previously Presented) The article of claim 34, wherein the metallization is a copper metallization, and wherein the metallic surface finish on the bond finger is selected from gold, gold alloy, silver, silver alloy, platinum, platinum alloy, iridium, iridium alloy, and combinations thereof.

36. (Previously Presented) The article of claim 28, further including a land pad for a ball attach on the second surface, wherein the land pad includes a metallization in the substrate, and a metallic surface finish below and on the metallization.

37. (Previously Presented) The article of claim 36, wherein the metallization is a copper metallization, and wherein the metallic surface finish on the land pad is selected from gold, gold alloy, silver, silver alloy, platinum, platinum alloy, iridium, iridium alloy, and combinations thereof.

38. (Previously Presented) The article of claim 36, wherein the metallic surface finish on the land pad includes a first plating layer above and on the land pad, and a second plating layer below and on the first plating layer.

39. (Previously Presented) The article of claim 38, wherein the metallization is a copper metallization, and wherein the metallic surface finish on the land pad is selected from gold, gold alloy, silver, silver alloy, platinum, platinum alloy, iridium, iridium alloy, and combinations thereof.

40. (Previously Presented) The article of claim 36, wherein the metallic surface finish on the land pad includes a first plating layer above and on the metallization, and a second plating layer above and on the first plating layer, and wherein the metallic surface finish on the bond finger is in a thickness range from about 0.01 μm to about 10 μm .

41. (Previously Presented) The article of claim 40, wherein the metallization is a copper metallization, and wherein the metallic surface finish on the land pad is selected from gold, gold alloy, silver, silver alloy, platinum, platinum alloy, iridium, iridium alloy, and combinations thereof.

42. (Previously Presented) The article of claim 36, wherein the metallic surface finish on the land pad includes a first plating layer above and on the metallization in a thickness range from about 10 Å to about 10,000 Å, and a second plating layer above and on the first plating layer, and wherein the metallic surface finish on the bond finger is in a thickness range from about 0.01 μm to about 10 μm .

43. (Previously Presented) The article of claim 42, wherein the metallization is a copper metallization, and wherein the metallic surface finish on the land pad is selected from gold, gold alloy, silver, silver alloy, platinum, platinum alloy, iridium, iridium alloy, and combinations thereof.